detail proofs that cannot be readily expressed through analytic formulas. For instance, they use the natural device of introducing, as conformal modules, the real periods of a differential dZ (with given imaginary periods) and the integrals

$$\int_{p_1}^{p_2} dZ$$

between the zeros p_2 of Z'. In the situation that arises through a variation they assert, as a triviality, that these quantities determine the Riemann surface. The reviewer agrees that a precise proof is not difficult, but it will necessarily involve considerations that the text does not even touch upon. Apart from such minor inconsistencies the proofs seem satisfactory and the results are very far-reaching.

Numerous applications are given, and it is shown, in particular, that the period matrix depends differentiably on the moduli. There is no attempt, however, to introduce a complex structure on the space of Riemann surfaces.

The last chapter is rather loosely connected with the rest of the book. It gives a concise and readable presentation of the Hodge theory of harmonic differentials on Kählerian manifolds, together with its extension to manifolds with boundary.

The authors must be congratulated on having got out of their hands and before the eyes of the mathematical public a volume that must have been very difficult to edit. It contains a plethora of ideas, each interesting in its own right, and on the whole they have been tied together in a successful manner. At a first reading the wealth of formulas is almost forbidding, especially since the authors have not been very fortunate in their choice of notations. However, the patient reader will be richly rewarded and will become aware of many challenging problems that remain to be solved.

The publishers have gone out of their way to give the formulas an attractive appearance, and the proofreading is excellent.

LARS V. AHLFORS

Topological dynamics. By W. H. Gottschalk and G. A. Hedlund. American Mathematical Society Colloquium Publications, vol. 36. Providence, American Mathematical Society, 1955. 8+148 pp. $5.10.

The authors begin by explaining that by *topological dynamics* they mean "the study of transformation groups with respect to those topological properties whose prototype occurred in classical dynamics." Thus, they say, *topological* has reference to the mathemati-